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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/673,656	09/29/2003	Takehiro Nakamura	15689.49.2	2350

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EXAMINER

GREY, CHRISTOPHER P

ART UNIT	PAPER NUMBER
2616	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/23/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/673,656

Applicant(s)

NAKAMURA ET AL.

Examiner

Christopher P. Grey

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7-11 and 13-15 is/are rejected.
- 7) ☒ Claim(s) 12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 7-11, 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dobrica (US 5875215) in view of Dann (US 4489354).

Claim 7, 9, 11, 13, 14, 15

Dobrica discloses a first communication apparatus

(Col 5 lines 42-43, transmission system) comprising:

Dobrica discloses means for generating a signal, which has a frame comprising a plurality of slots, and includes one or more known pilot symbols **(fig 1, plurality of pilot symbols are depicted Col 6 lines 35-39).**

Dobrica discloses means for transmitting the signal **Col 5 lines 42-43, transmission system).**

Dobrica discloses means for receiving the signal **(fig 2, synchronizing unit is equivalent to a receiving unit).**

Dobrica discloses means for carrying out coherent detection by using the pilot symbols included in the signal **(Col 7 lines 52-54, coherently detected symbol; and abstract).**

Dobrica does not specifically disclose means for generating one or more sync words for frame alignment in each of the slots and means for establishing frame alignment by using the sync words included in the signal.

Dann discloses encoding a signal in an apparatus, where a sync generator (means), provides a sync word, which periodically interrupts a pilot signal (**Col 10 lines 64-67 and Col 12 lines 8-16 and Col 12 lines 61-65**).

Dann also discloses detecting receiving a modulated signal in an apparatus (fig 8), demodulating such a signal and a decoder for detecting a sync word (**Col 13 lines 37-38 and Col 14 lines 55-57**) and making a time based correction based on the detection (**Col 14 lines 66-67, time base correction equivalent to frame alignment**).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to combine the sync word generator as disclosed by Dann within the transmitter as disclosed by Dobrica. The motivation for the use of a sync word is to control at least part of the reproduction of the modulated information in the receiver (see abstract).

Claim 10 Dobrica discloses the means for generating including a pilot symbol portion at fixed intervals in each of the slots in the signal (**see fig 1**).

Dobrica does not specifically disclose the sync word portion alternating at fixed intervals in each of the slots in the signal.

Dann discloses the sync word being inserted to interrupt the pilot symbol at periodic instances (**Col 10 lines 64-67**).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to combine the sync word generator as disclosed by Dann within the transmitter as disclosed by Dobrica. The motivation for the use of a sync word is to control at least part of the reproduction of the modulated information in the receiver (see abstract).

Claim 8 Dobrica discloses wherein the first communication apparatus is a base station and the second communication apparatus is a mobile station, or the first communication apparatus is a mobile station and the second communication apparatus is a base station (**Col 6 line 35, transmitter and Col 10 line 35, receiver, where interpreted broadly, the base station and mobile station are equivalent to a transmitter and receiver**).

Allowable Subject Matter

2. Claim 12 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher P. Grey whose telephone number is (571)272-3160. The examiner can normally be reached on 10AM-7:30PM.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris To can be reached on (571)272-7629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Christopher Grey
Examiner
Art Unit 2616

C. Grey
3/16/07


DORIS H. TO
SUPERVISORY PATENT EXAMINER
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